



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/754,098

12/31/2003

Robert Knauerhase

5038-328

6512

32231

7590

12/22/2008

MARGER JOHNSON & MCCOLLOM, P.C. - Intel
210 SW MORRISON STREET, SUITE 400
PORTLAND, OR 97204

EXAMINER

LAI, MICHAEL C

ART UNIT

PAPER NUMBER

2457

MAIL DATE

DELIVERY MODE

12/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/754,098	Applicant(s) KNAUERHASE ET AL.	
	Examiner MICHAEL C. LAI	Art Unit 2457	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24, 26-35 and 37-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24, 26-35 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to communication filed on 10/14/2008.

Claims 1-24, 26-35, and 37-41 have been examined

Response to Amendment

2. The examiner has acknowledged the new claims 38-41. Claims 1-24, 26-35, and 37-41 are pending.

Response to Arguments

3. Applicant's arguments filed 10/14/2008 have been fully considered but they are not persuasive.

In response to applicant's request to explain why the Examiner has changed his mind regarding the allowability of the features of former claims 25 and 36 over Shorter, the Examiner admitted indicating that claims 25 and 36 were allowable if rewritten in independent form in the Office Action dated January 24, 2008. However, six month later, the Examiner found that Shorter does have the features of claims 25 and 36 after further examination. The examiner obviously missed the features in the first examination.

Applicant's argument, see page 10, with respect to "Shorter does not teach virtual machines implementing services", is not persuasive. In response, as Applicant indicates "Figures 6A and 6B of Shorter show the data structure used by the virtual machine pool manager, to track which virtual machines are **working on requests for user programs**" (see middle of page 10), Shorter clearly teaches that virtual machines service the requests.

Applicant's argument, see page 11, with respect to "Shorter does not teach select a virtual machine from a plurality of virtual machines offering the requested service", is not persuasive. Shorter discloses a Virtual Machine Pool Manager, which controls a plurality of virtual machines offering the requested service, assigns an idle VM machine from the pool in response to an end user request that identifies a distributed application program [col. 4, lines 32-52]. Shorter further discloses that the Pool Manager determines whether the request should be assigned to an idle virtual machine or to a virtual machine that is currently processing a request originating in a portion of the program having the same ID [col. 5, lines 17-35]. Figure 5 of Shorter shows Virtual Machine 01 services Application 1 of User1, Virtual Machine 02 services Application 1 of User2, Virtual Machine 03 services Application 2 of User1, Virtual Machine 04 services Application 3 of User2. Shorter clearly teaches selecting different virtual machines for different applications (i.e., services).

In view of the foregoing, Shorter does teach virtual machines to implement services and a service manager to select a virtual machine from a plurality of virtual machines offering the first service. Shorter clearly meets the claimed limitations of claims 1, 9, 16, and 27 (particularly claims 1 and 9, as both claims only address one service, the first service).

Applicant's argument, see page 12, with respect to "Shorter does not teach or suggest creating an image based on the database of service provider data", is not persuasive. Shorter discloses a set of installation supplied parameters that

Art Unit: 2457

the Virtual Machine Pool Manager will read to create a plurality of virtual machines 50 that are brought to the run ready state [col. 10, lines 38-59]. These parameters are equivalent to service provider data and stored in some form of database in the system. Shorter clearly meets the limitation of claim 2.

Applicant's argument, see page 13, with respect to "Shorter does not teach or suggest **a list of services offered by each virtual machine**, claims 7 and 12 are patentable under 35 U.S.C. § 102(b) over Shorter", is not persuasive because this limitation is not in the claims. The claims recite "**a list of services offered by the service apparatus**, the list of services to include at least the services offered by each virtual machine in the set of virtual machines".

Applicant's argument, see page 13, with respect to "In fact, nowhere does Shorter teach or suggest that virtual machines offer multiple services", is not persuasive. Shorter teaches VM01 implementing both the MAIL and DIRECTORY services at column 12, lines 59-65. As Applicant indicates "the MAIL and DIRECTORY references are the applications (that is, the user programs)". To service two different applications, the virtual machines must offer two different services.

Applicant's argument, see page 14, regarding rejection to claims 17, 24, 28 and 35, is not persuasive. Applicant makes the assumption that all virtual machines in Shorter are identical, which is incorrect. In order to service requests from different applications, Shorter must have virtual machines offering different services. As a result, when a virtual machine is created later, it would be able to

offer the requested service. The combination of Shorter, Ottati, and Bulson does teach creating an image for a new virtual machine offering a requested service not offered by other virtual machines.

Applicant's argument, see page 14, regarding rejection to claims 22 and 33, is not persuasive. In order to create an image on the fly as claims 22 and 33 recite, one must have a plurality of software packages ready and must select a combination of software packages that define the new virtual machine to offer the requested service.

Applicant's argument, see page 14, regarding rejection to claims 18 and 29, is not persuasive. Applicant argues "Shorter does not modify this list so that it shows only the virtual machines currently in use: this list of virtual machines is independent of which machines are currently in use." The examiner would like to point out that this limitation is not in the claims.

Applicant's argument, see page 15, regarding rejection to claims 19 and 30, is not persuasive. In order to add the requested service to the list of services, one must identify the new virtual machine in the list of services as offering the requested service first.

Thus, in view of such, the rejection is sustained as follows:

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2457

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-16, 27, and 38-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Shorter (US 5,063,500, hereinafter Shorter).

Regarding claim 1, Shorter discloses a service apparatus implemented in a machine, comprising:

a service request receiver to receive a request for a first service [col. 5, lines 27-35, the pool manager at the host.];

a storage [FIG. 1 and col. 6, lines 58-62, IBM 360/370 has a storage];

a set of virtual machines stored in the storage, each virtual machine to implement a service [FIGs. 5, 6A, 6B, and col. 11, lines 9-18];

a service manager to manage the set of virtual machines [FIG. 5 and col. 10, lines 38-59, the VMPM 46] and to select a first virtual machine from a plurality of virtual machines offering the first service responsive to the request [abstract, (1) and (2)]; and

a transmitter to return an access to the first virtual machine in the set of virtual machines as a response to the request for the first service [col. 5, lines 43-56, virtual machine assignment and inter-program communication].

Regarding claim 2, Shorter discloses a service apparatus according to claim 1, wherein: the service apparatus further comprises:

a database of service provider data [col. 10, lines 38-59, "a set of installation supplied parameters that the Virtual Machine Pool Manager

will read to create a plurality of virtual machines 50 that are brought to the run ready state”]; and
an image constructor to use the database to construct an image [col. 10, lines 38-59, “the Virtual Machine Pool Manager”]; and
the service manager is operative to install the image as the first virtual machine in the set of virtual machines [col. 10, lines 38-59, “the Virtual Machine Pool Manager”].

Regarding claim 3, Shorter discloses a service apparatus according to claim 1, wherein:

the service apparatus further comprises a database of images [FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service. A list of virtual machine is equivalent to a database of service provider data, also each virtual machine presenting a complete image of a computer to the VM operating system.]; and
the service manager is operative to install a first image from the database of images as the first virtual machine in the set of virtual machines [col. 10, lines 45-54, each virtual machine presenting a complete image of a computer to the VM operating system.].

Regarding claim 5, Shorter discloses a service apparatus according to claim 1, further comprising a deleter to delete the virtual machine [col. 1, lines 38-41, adjusting the pool size implies creating/deleting virtual machines.] .

Regarding claim 6, Shorter discloses a service apparatus according to claim 1, the service manager including a table stored in the storage, the table to indicate a state for each virtual machine in the set of virtual machines [FIG. 6A, 6B, the BUSY indicator].

Regarding claim 7, Shorter discloses a service apparatus according to claim 1, further comprising a list of services offered by the service apparatus, the list of services to include at least the services offered by each virtual machine in the set of virtual machines [FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service. A list of virtual machine is equivalent to a list of service.].

Regarding claim 8, Shorter discloses a service apparatus according to claim 1, wherein at least one of the virtual machines implements the service and a second service [col. 12, lines 59-65, VM01 implements both MAIL and DIRECTORY services].

Regarding claim 9, Shorter discloses a system, comprising:

- a network [FIG. 1, the SNA network];

- a service request receiver to receive a request for a first service [col. 5, lines 27-35, the pool manager at the host.];

- a list of services offered [FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service. A list of virtual machine is equivalent to a list of service.];

- a service manager to manage the set of virtual machines [FIG. 5 and col. 10, lines 38-59, the VMPM 46] and to select a first virtual machine from

a plurality of virtual machines offering the first service responsive to the request [abstract, (1) and (2)]; and
a transmitter to return an access to the first virtual machine in the set of virtual machines as a response to the request for the first service [col. 5, lines 43-56, virtual machine assignment].

Regarding claim 10, Shorter discloses a system according to claim 9, further comprising a client machine coupled to the network, the client computer to send the request [FIG. 1, Terminal 21].

Regarding claim 11, Shorter discloses a system according to claim 9, further comprising at least one server farm machine [FIG. 1, hosts], each server farm machine including:

a storage [FIG. 1 and col. 6, lines 58-62, IBM 360/370 has a storage]; and
at least one virtual machine from the set of virtual machines, stored in the storage of the server farm machine, each virtual machine to implement a service [col. 6-7, lines 63-18, host 23, "MAIL" and "CALENDAR" applications].

Regarding claim 12, Shorter discloses a system according to claim 9, further comprising a list of services offered by the system, the list of services to include at least the services offered by each virtual machine in the set of virtual machines [FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service. A list of virtual machine is equivalent to a list of service.].

Art Unit: 2457

Claim 13 is of the same scope as claim 1. It is rejected for the same reason as claim 1.

Regarding claim 14, Shorter discloses a system according to claim 9, further comprising:

a service apparatus, the service apparatus to include the service request receiver [col. 5, lines 27-35, the pool manager at the host.] and the transmitter [col. 5, lines 43-56, virtual machine assignment];

at least one server farm machine [FIG. 1, hosts], each server farm machine to include:

a storage [FIG. 1 and col. 6, lines 58-62, IBM 360/370 has a storage];

and

at least one virtual machine from the set of virtual machines, stored in the storage of the server farm machine, each virtual machine to implement a service [col. 6-7, lines 63-18, host 23, "MAIL" and "CALENDAR" applications]; and

a management machine, the management machine to include the service manager [FIG. 5 and col. 10, lines 38-59, the VMPPM 46].

Claim 15 is of the same scope as claim 8. It is rejected for the same reason as claim 8.

Regarding claim 16, Shorter discloses a method, comprising:

receiving a request for a service [col. 5, lines 27-35, the pool manager at the host.];

accessing a list of services offered by a set of virtual machines [col. 11, lines 61-66, scanning the control block.];

determining if the requested service is in the list of services [col. 11-12, lines 61-3]; and

if the requested service is in the list of services:

determining a plurality of virtual machine offering the requested service [col. 12, lines 54-65];

selecting one of the plurality of virtual machines [abstract, (1) and (2)]; and

returning an identifier for the selected virtual machine offering the requested service [col. 12, lines 59-65].

Claim 27 is of the same scope as claim 16. It is rejected for the same reason as for claim 16.

Regarding claim 38, Shorter further discloses wherein the first virtual machine does not implement the second service [FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service].

Claim 39 is of the same scope as claim 38. It is rejected for the same reason as for claim 38.

Regarding claim 40, Shorter further discloses wherein:

accessing a list of services offered by a set of virtual machines includes accessing the list of services offered by the set of virtual machines, the list of services including at least the requested service and a second service [col.

11, lines 61-66, scanning the control block; col. 12, lines 59-65, VM01 implements both MAIL and DIRECTORY services]; and

selecting one of the plurality of virtual machines includes selecting the one of the plurality of virtual machines offering the requested service and not offering the second service [abstract, (1) and (2); FIG. 5, 6A, 6B, and col. 11, lines 9-18. Each virtual machine performs a service].

Claim 41 is of the same scope as claim 40. It is rejected for the same reason as for claim 40.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 26, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shorter as applied to claim 1.

Regarding claim 4, Shorter discloses a service apparatus according to claim 1, but silent about further comprising an archiver to archive the virtual machine. Official Notice is taken for archiving the virtual machine, which is a well known technique in resource management. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to try to archive the virtual machine for the purpose of saving memory by swapping inactive virtual

machines out of the processor and active memory, thereby those virtual machine can be restored without re-instantiation.

Regarding claim 26, Shorter discloses a method according to claim 16, wherein determining the virtual machine includes: determining if the virtual machine is active, sleeping [FIG. 6A, 6B, the BUSY indicator is YES or NO]; and if the requested machine is sleeping, activating the virtual machine [FIG. 6A, 6B, the BUSY indicator from NO to YES]. Shorter is silent about determining if the virtual machine is archived and if the requested machine is archived, activating the virtual machine. Official Notice is taken for determining if the virtual machine is archived and if the requested machine is archived, activating the virtual machine, which is a well known technique in resource management. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to try to determine if the virtual machine is archived and if the requested machine is archived, activating the virtual machine for the purpose of saving memory by swapping inactive virtual machines out of the processor and active memory, thereby those virtual machines can be restored without re-instantiation.

Claim 37 is of the same scope as claim 26. It is rejected for the same reason as for claim 26.

8. Claims 17, 20-24, 28 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shorter as applied to claim 16, in view of Ottati (US 6,704,764

B1, hereinafter Ottati), and further in view of Bulson et al. (US 2005/0060704 A1, hereinafter Bulson)..

Regarding claim 17, Shorter discloses a method according to claim 16, further comprising, if the requested service is not in the list of services, assign a virtual machine to service the request and returning an identifier for the virtual machine [col. 5, lines 37-42, and col. 12, lines 59-65]. But Shorter is silent about creating an image for a new virtual machine that offers the requested service and installing the image for the new virtual machine. However, Ottati teaches if a virtual machine is unavailable then spawning and loading a new virtual machine to instantiate a thread corresponding to the requested service [claim 1 and col. 6, lines 11-27]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to create and install a new virtual machine for the purpose of serving any new service request on the fly by dynamically managing a pool of virtual machines.

Shorter and Ottati fail to disclose returning an identifier for the virtual machine includes returning an identifier for the new virtual machine. However, Bulson teaches returning a handle (e.g., an identifier) of the job virtual machine to the job management service, so that the job management service can communicate directly with the job virtual machine [para. 0037]. Thus it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bulson's teaching into Sorter's and Ottati's method for the purpose of communicating directly with the new virtual machine by returning an

identifier for the new virtual machine, thereby providing a more efficient communication system [para. 0037].

Regarding claim 20, Shorter, Ottati, and Bulson further disclose selecting one of a set of machines to support the new virtual machine and installing the image for the new virtual machine in the selected machine (one must make decision what machines to install before installing an image that).

Regarding claim 21, Shorter, Ottati, and Bulson disclose the claimed invention except for wherein selecting one of a set of machines includes selecting the selected machine to balance loads on the machines in the set of machines. However, Ottati teaches load balancing in a distributed system [abstract]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize system performance by load balancing the set of machines.

Regarding claim 22, Shorter, Ottati, and Bulson further disclose wherein creating an image includes selecting a combination of software packages that define the new virtual machine to offer the requested service [In order to create an image on the fly, one must have a plurality of software packages ready and must select a combination of software packages that define the new virtual machine to offer the requested service].

Regarding claim 23, Shorter, Ottati, and Bulson disclose the claimed invention except for creating an image includes copying the image for the new virtual machine from a set of pre-constructed images. It would have been

Art Unit: 2457

obvious to one of ordinary skill in the art at the time the invention was made to copy the image for the new virtual machine from a set of pre-constructed images for the purpose of re-using existing software images, thereby saving operating cost.

Regarding claim 24, Shorter discloses a method according to claim 16, wherein: determining the virtual machine offering the requested service includes: determining that a new virtual machine should offer the requested service [col. 5, lines 37-56, and col. 12, lines 59-65]. But Shorter is silent about creating an image for a new virtual machine that offers the requested service and installing the image for the new virtual machine. However, Ottati teaches if a virtual machine is unavailable then spawning and loading a new virtual machine to instantiate a thread corresponding to the requested service [claim 1 and col. 6, lines 11-27]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to create and install a new virtual machine for the purpose of serving any new service request on the fly by dynamically managing a pool of virtual machines.

Shorter and Ottati fail to disclose returning an identifier for the virtual machine includes returning an identifier for the new virtual machine. However, Bulson teaches returning a handle (e.g., an identifier) of the job virtual machine to the job management service, so that the job management service can communicate directly with the job virtual machine [para. 0037]. Thus it would have been obvious to a person with ordinary skill in the art at the time the invention was

made to incorporate Bulson's teaching into Sorter's and Ottati's method for the purpose of communicating directly with the new virtual machine by returning an identifier for the new virtual machine, thereby providing a more efficient communication system [para. 0037].

Claim 28 is of the same scope as claim 17. It is rejected for the same reason as for claim 17.

Claim 31 is of the same scope as claim 20. It is rejected for the same reason as for claim 20.

Claim 32 is of the same scope as claim 21. It is rejected for the same reason as for claim 21.

Claim 33 is of the same scope as claim 22. It is rejected for the same reason as for claim 2.

Claim 34 is of the same scope as claim 23. It is rejected for the same reason as for claim 23.

Claim 35 is of the same scope as claim 24. It is rejected for the same reason as for claim 24.

9. Claims 18-19 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shorter, in view of Ottati and Bulson as applied to claim 17, and further in view of Edstrom et al. (US 2002/0013827 A1, hereinafter Edstrom).

Regarding claim 18, Shorter-Ottati-Bulson disclose a method according to claim, but are silent about further comprising adding the requested service to the list of services. However, Edstrom teaches adding the desired service to a list of

Art Unit: 2457

subscribed-to services [para. 0102, lines 14-17]. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the requested service to the list of services for the purpose of providing faster and more efficient services in the future by updating the service list.

Regarding claim 19, Shorter-Ottati-Bulson-Edstrom further disclose wherein adding the requested service includes identifying the new virtual machine in the list of services as offering the requested service [In order to add the requested service to the list of services, one must identify the new virtual machine in the list of services as offering the requested service first. Afterward, it doesn't make sense to add a service without the support of the corresponding virtual machine].

Claim 29 is of the same scope as claim 18. It is rejected for the same reason as for claim 18.

Claim 30 is of the same scope as claim 19. It is rejected for the same reason as for claim 19.

Conclusion

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory

Art Unit: 2457

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made.

Applicant must show how the amendments avoid such references and objections. See 37 CFR 1.111(c).

12. Nageswaran, US Patent Number 5,991,792, has taught a method dynamically managing a thread pool of reusable threads in a computer system.

13. Prokop et al., US Patent Number 5,170,340, has taught **a plurality of discrete job processing virtual machines with each of the virtual machines having at least one service associated with it for implementing the virtual machine.**

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially

Art Unit: 2457

teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2457

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai
15DEC2008

/YVES DALENCOURT/
Primary Examiner, Art Unit 2457